WHAT IS CLAIMED IS:

1. A method of transporting frame relay data over a satellite or wireless network, comprising the steps of:

receiving frame relay packets from a frame relay network;

prioritizing the frame relay packets;

segmenting the payload data of each of the frame relay packets to form spackets;

scheduling transmission of the spackets in accordance with priorities of the frame relay packets to which the spackets correspond;

forming fixed-sized satellite/wireless frames, each containing plural spackets and a variable number of error correction code bytes; and

transmitting the satellite/wireless frames over the satellite or wireless network.

2. The method according to claim 1, further comprising the step of compressing the spackets prior to forming the satellite/wireless frames.

3. The method according to claim 1, wherein said prioritizing step includes queuing the spackets in a plurality of data queues as a function of priorities of the frame relay packets to which the spackets correspond.

4. The method according to claim 3, wherein the plurality of queues correspond to different priority levels.

5. The method according to claim 3, wherein the plurality of queues correspond to a plurality of virtual channels.

6. The method according to claim 1, wherein said segmenting step includes segmenting the payload data of each of the frame relay packets into plural spackets, wherein all of the plural spackets, except a last of the plural spackets, is required to be n bytes in length, where n is an integer.

7. The method according to claim 1, wherein said segmenting step includes prepending each spacket with a header.

8. The method according to claim 7, wherein the header of each spacket includes: a packet number indicating to which frame relay packet the spacket corresponds; a sequence number indicating the position of the spacket within the frame relay packet; a VC Id field indicating the virtual channel to which the frame relay packet corresponds; and a last field indicating whether or not the spacket is the last spacket in the frame relay packet.

9. The method according to claim 8, wherein a VC identifier contained in the VD Id field is compressed from a VC identifier contained in the frame relay packet.

10. The method according to claim 1, wherein the spackets contained within a satellite/wireless frame are variable in size.

11. The method according to claim 1, wherein a single spacket is transmittable over plural satellite/wireless frames.

12. The method according to claim 1, wherein said forming step includes forming an interleaver frame from plural satellite/wireless frames, wherein the order of the bytes in the interleaver frame is rearranged to spread the effects of burst errors over several satellite/wireless frames.

13. The method according to claim 1, further comprising the step of monitoring the condition of a link over the satellite or wireless network,

wherein said forming step further comprises varying the variable number of error correction code bytes in response to variations in link conditions observed in said monitoring step.

14. The method according to claim 13, wherein said monitoring step includes calculating

a byte error ratio and said forming step includes setting the number of error correction code bytes as a function of the byte error ratio.

15. The method according to claim 14, wherein the byte error ratio is calculated more quickly when the bit error rate is high and more slowly when the bit error rate is low.

16. The method according to claim 14, wherein the error correction code bytes are Reed-Solomon coding check bytes.

17. The method according to claim 14, wherein the error correction code bytes are Reed-Solomon coding check bytes and Viterbi control codes.

18. The method according to claim 1, wherein each fixed-sized satellite/wireless frame formed in said forming step includes: a header, a payload comprising a variable number of variable-size spackets, and the variable number of error correction code bytes.

19. The method according to claim 18, wherein the header of each satellite/wireless frame includes: a field indicating the number of spackets in the frame; a field indicating a size of a first partial spacket in the frame; a field indicating a sequence number of the frame; a field indicating the number of error correction code bytes in the frame; a field indicating the number of error correction code bytes to be used in frames to be received; and a field indicating whether the spackets in the frame are compressed.

20. The method according to claim 19, wherein the field indicating the number of error correction code bytes in the frame, the field indicating the number of error correction code bytes to be used in frames to be received, and the field indicating whether the spackets in the frame are compressed are inserted in a same field location in frames having different frame numbers.

21. The method according to claim 18, wherein the error correction code bytes are Reed-Solomon coding check bytes.

22. The method according to claim 1, further comprising the steps of:

receiving satellite/wireless frames from the satellite or wireless network;

resequencing the spackets contained in the received satellite/wireless frames and reassembling the frame relay packets from the resequenced spackets; and

transmitting the reassembled frame relay packets to the frame relay network.

23. The method according to claim 22, further comprising the step of decompressing the spackets prior to resequencing the spackets.

24. A system for processing frame relay data to be transported over a satellite or wireless network, comprising:

a frame relay physical and data link layer processor for receiving frame relay packets from a frame relay network;

a prioritizer for prioritizing the frame relay packets;

a segmentation processor for segmenting the payload data of each of the frame relay packets to form spackets;

a scheduler for scheduling transmission of the spackets in accordance with priorities of the frame relay packets to which the spackets correspond; and

a satellite/wireless frame processor adapted to form fixed-sized satellite/wireless frames to be transmitted over the satellite or wireless network, each of the fixed-sized satellite/wireless frames including a variable number of error correction code bytes.

25. The system according to claim 24, further comprising a data compressor for compressing the spackets prior to formation of the satellite/wireless frames.

26. The system according to claim 24, wherein said prioritizer queues the spackets in a plurality of data queues as a function of priorities of the frame relay packets to which the spackets correspond.

27. The system according to claim 26, wherein the plurality of queues correspond to

different priority levels.

28. The system according to claim 26, wherein the plurality of queues correspond to a plurality of virtual channels.

29. The system according to claim 24, wherein said segmentation processor segments the payload data of each of the frame relay packets into plural spackets, wherein all of the plural spackets, except a last of the plural spackets, is required to be n bytes in length, where n is an integer.

30. The system according to claim 24, wherein said segmentation processor prepends each spacket with a header.

31. The system according to claim 30, wherein the header of each spacket includes: a packet number indicating to which frame relay packet the spacket corresponds; a sequence number indicating the position of the spacket within the frame relay packet; a VC Id field indicating the virtual channel to which the frame relay packet corresponds; and a last field indicating whether or not the spacket is the last spacket in the frame relay packet.

32. The system according to claim 31, wherein a VC identifier contained in the VD Id field is compressed from a VC identifier contained in the frame relay packet.

33. The system according to claim 24, wherein the spackets contained within a satellite/wireless frame are variable in size.

34. The system according to claim 24, wherein a single spacket is transmittable over plural satellite/wireless frames.

35. The system according to claim 24, wherein said satellite/wireless frame processor forms an interleaver frame from plural satellite/wireless frames, wherein the order of the bytes

in the interleaver frame is rearranged to spread the effects of burst errors over several satellite/wireless frames.

36. The system according to claim 24, wherein said satellite/wireless frame processor monitors the condition of a link over the satellite or wireless network and varies the variable number of error correction code bytes in response to variations in link conditions.

37. The system according to claim 36, wherein said satellite/wireless frame processor calculates a byte error ratio and sets the number of error correction code bytes as a function of the byte error ratio.

38. The system according to claim 37, wherein the byte error ratio is calculated more quickly when the bit error rate is high and more slowly when the bit error rate is low.

39. The system according to claim 36, wherein the error correction code bytes are Reed-Solomon coding check bytes.

40. The system according to claim 36, wherein the error correction code bytes are Reed-Solomon coding check bytes and Viterbi control codes.

41. The system according to claim 24, wherein each fixed-sized satellite/wireless frame includes: a header, a payload comprising a variable number of variable-size spackets, and the variable number of error correction code bytes.

42. The system according to claim 41, wherein the header of each satellite/wireless frame includes: a field indicating the number of spackets in the frame; a field indicating a size of a first partial spacket in the frame; a field indicating a sequence number of the frame; a field indicating the number of error correction code bytes in the frame; a field indicating the number of error correction code bytes to be used in frames to be received; and a field indicating whether the spackets in the frame are compressed.

43. The system according to claim 42, wherein the field indicating the number of error correction code bytes in the frame, the field indicating the number of error correction code bytes to be used in frames to be received, and the field indicating whether the spackets in the frame are compressed are inserted in a same field location in frames having different frame numbers.

44. The system according to claim 41, wherein the error correction code bytes are Reed-Solomon coding check bytes.

45. The system according to claim 24, further comprising:

a receive satellite/wireless frame processor for receiving satellite/wireless frames from the satellite or wireless network;

a reassembly and resequencer processor for resequencing the spackets contained in the received satellite/wireless frames and reassembling the frame relay packets from the resequenced spackets;

wherein said frame relay physical and data link layer processor transmits the reassembled frame relay packets to the frame relay network.

46. The system according to claim 45, further comprising a data decompressor for decompressing the spackets prior to resequencing the spackets.